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EXAMINER	
PATEL, HARESH N	
ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 09/896,854	**Applicant(s)** DEVERILL ET AL.	
	Examiner Haresh Patel	**Art Unit** 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-12 are presented for examination.

2. In view of the appeal brief filed on 6/7/2005, PROSECUTION IS HEREBY REOPENED.

Response to Arguments

3. Applicant's arguments, filed 6/7/2005 with respect to the claims (1-12) rejected under 35 U.S.C. 102(e) have been fully considered and are persuasive. The rejection of the claimed subject matter under 35 U.S.C. 102(e) has been removed and the claimed subject matter is presently rejected under 35 U.S.C. 103(a). Hence, the final rejection dated 11/08/2004 of the claims (1-12) has been withdrawn. Below is the response to the remaining applicant's arguments.

Applicant argues (1), "the cited reference, Leymann et al. 6,633,908 (Hereinafter Leymann), does not disclose the limitations of claim 1, i.e., the computer application being monitored by the API, a computer application transaction under surveillance". The examiner disagrees in response to applicant's arguments. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies, "the computer application being monitored by the API, a computer application transaction under surveillance" are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). What is claimed is, "method of monitoring a computer application" and "a transaction to be executed by said computer application", see claim 1, which has a very different scope compared to the above-mentioned applicant concerned limitations. Leymann discloses the limitations, "method of monitoring a computer application", e.g., abstract, col., 2, line 44 – col., 3, line 24 and "a transaction to be executed by said computer application", e.g., abstract, col., 2, line 44 – col., 3, line 24, as claimed. Therefore the rejection in maintained.

Applicant argues (2), "the reference Maccabee et. al. 6,108,700 (Hereafter Maccabee) does not teach, "contemplating all of the possible events and transactions that might be involved in a complex business transaction, particularly one whose execution involves the coordination of several business entities and computer systems, is itself a daunting task. Codifying these items complicates the task. Individually defining all of these events and transactions in software code in order to reduce a complete set of transaction generation rules amounts to a potentially vast amount of preliminary preparation activity that must be performed before the monitoring system may be placed into operation". The examiner disagrees in response to applicant's arguments. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies, "contemplating all of the possible events and transactions that might be involved in a complex business transaction, particularly one whose execution involves the coordination of several business entities and computer systems, is itself a daunting task. Codifying these items complicates the task. Individually defining all of these events and transactions in software code in order to reduce a complete set of transaction generation rules amounts to a potentially vast amount of preliminary preparation activity that must be performed before the monitoring system may be placed into operation" are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). What is claimed is, "said agent measures the processing time spent by said computer application at each component of said computer system and measures the processing time spent by said computer application between each component of said computer system", which has a very different scope compared to the above-mentioned applicant concerned limitations. Maccabee discloses limitations, "said agent measures the processing time spent by said computer application (e.g., col., 3, line 21 – col., 4, line 51) at each component of said computer system (e.g., col., 3, line 21 – col., 4, line 51) and measures the processing time spent by said computer application (e.g., col., 3, line 21 – col., 4, line 51) between each component of said computer system (e.g., col., 3, line 21 – col., 4, line 51), as claimed. Therefore the rejection in maintained.

Applicant argues, (3) "Leymann and Maccabee cannot be combined in any way to disclose, "without predefining events describing the potential stages of the transaction". The examiner disagrees in response to applicant's arguments. Leymann teaches the substantial claimed limitations of the claimed invention, i.e., claims 1, 6 and 9, including, an application program interface for monitoring a computer application executed on a computer system, col., 8, lines 5 – 50), assigning without predefining events describing the potential- stages of a transaction to be executed by said computer application (e.g., abstract, col., 2, line 44 – col., 3, line 24), software code for assigning a single general reference to characteristic transactional information associated with a transaction to be executed by said computer application (e.g., abstract, col., 2, line 44 – col., 3, line 24), an agent for marking the time at which said software code is executed and tagging that time with said characteristic transactional information as said characteristic transactional information is being currently processed by the computer application (e.g., col., 3, line 25 – col., 4, line 24), a database for storing said raw computer application timing data, an aggregator (e.g., Tivoli Distributed Monitoring, col., 4, line 25 – col., 5, line 24). Maccabee teaches an aggregator for calculating computer application latency data from raw timing data produced by said agent (e.g., abstract), a database for storing said raw computer application timing data and said latency data (e.g., The Transaction Store is a repository, col., 3, line 21 – col., 4, line 51). Hence, the software at the monitoring system would collect the transaction related information from an agent of each of the managed system and store the collected information into the database. The collected transaction related information would be used to calculate the processing time spent by an application of each management system and the time spent between two managed systems that handled the transaction. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of a primary reference. It is also not that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinally skill in the art. In re Keller, 642 F.2d 414, 425, 208 USPQ 871, 881 (CCPA 1981); In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991). The claim is open-ended (comprising) and also, page 31, lines 25-30, of the specification, clearly states, "Although the invention has been described in detail for the purpose of illustration, it is to be understood that such detail is solely for that purpose and that variations can be made therein by those skilled in the art without departing from the spirit and scope of the invention as claimed herein". Page 6, lines 13 – 26, states, "transaction event can be a request, a response, manually triggered computer function, etc.,". Since, applicant's claims contain broadly claimed subject matter, it clearly reads upon the examiner's interpretation of the claimed subject matter. The claimed limitations "adding software code to said computer application" is newly presented over the previous rejection, which is addressed by the new ground(s) of rejection (please refer to the below rejections of this office action). Therefore the rejection in maintained.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 1, 6 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Amended claim 1 recites the limitations, "measuring <u>said</u> transaction<u>s</u>". There is insufficient antecedent basis for this limitation in the claim.

6. Amended claims 6 and 9 recite the limitations, "<u>the</u> potential stages of a transaction", "<u>the</u> time at which said software code is executed". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 2, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leymann et al. 6,633,908 (Hereinafter Leymann) in view of "well known in the art".

9. As per claims 1 and 6, Leymann teaches the following:

a method of monitoring a computer application executed on a computer system (e.g., abstract, col., 2, line 44 – col., 3, line 24), an application program interface for use in monitoring a computer application executed on a computer system (e.g., abstract, col., 2, line 44 – col., 3, line 24),, said application program interface comprising:

without predefining events describing the potential stages of transaction to be executed by said computer application (e.g., abstract, col., 2, line 44 – col., 3, line 24), for assigning a single general reference (e.g., The basic idea of the present invention is to instrument not the application components. The present invention contemplates instrumenting the invocation agent instead, which in turn is responsible to call the application for execution. It is the invocation agent that makes the appropriate ARM calls to furnish the instrumentation on behalf of the application, abstract),

to characteristic transactional information associated with a transaction to be executed by said computer application (e.g., additional advantages are accomplished in a preferred embodiment of the proposed invention in which the application response measurement setup means further identifies a transaction of the application instance to the ARM to be measured, col., 2, line 44 – col., 3, line 24),

using said single general reference to identify transaction events performed by said computer application in executing said transaction (e.g., The present invention makes maximal use of information available to the invocation agent. As the invocation "knows" which application/transaction it has to invoke it is also able to share this information with the ARM. The ARM is thus able to associate the measured data with the correct application/transaction, col., 3, line 44 – col., 4, line 24),

measuring said transactions (e.g., latency calculation of the transactions, col., 4, line 44 – col., 5, line 24),

an agent for marking the time at which said software code is executed (e.g., ARM API 108 runs in the address space 110 of the application 109. Its only function is to capture the key data and a timestamp, put this data on a queue, and then return control to the application 109. API Subagent 107 runs asynchronously as its own process. This subagent manages the data (calculates response times, checks thresholds, col., 2, line 44 – col., 3, line 24) and

tagging that time with said characteristic transactional information as said characteristic transactional information is being currently processed by the computer application (e.g., Through these two distinctive means the invocation agent is enabled to precisely control the "time window", in which the ARM will associate the response measurement data to the application. Such a feature allows the invocation agent to perform extra processing, which will not enter the response measurement data of the application. Thus it is guaranteed that the measured data are precise and relate to the application execution and not to the processing of the invocation agent, col., 3, line 44 – col., 4, line 24).

Leymann's invention discloses usage of an agent and an application that is self-instrumented component (e.g., abstract, col., 7, line 51 – col., 8, line 15).

However, Leymann's invention does not teach adding software code to said computer application.

The limitations, "adding software code to said computer application", are well known in the art, for example, abstract, col., 7, line 51 – col., 8, line 15.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include adding software code to said computer application with the teachings of Leymann in order to facilitate addition of software code to the application because the code would help enhance the functionality of the application. The application with enhanced functionality would provide support for monitoring information.

10. As per claims 2 and 7, Leymann also teaches the following:

said software code is further operable to assign a component-specific reference to said single general reference at each component of said computer system (e.g., Tivoli Distributed Monitoring 101 provides this function at a local level or across a network or enterprise, offering sophisticated rule-based analysis of different applications, systems, databases, and networks. To execute the responses, Tivoli Enterprise Console 102 invokes tasks across many different platforms, protected by a strong security, col., 4, line 44 – col., 5, line 24), said component-specific reference representing said characteristic transactional information as said computer application is executed on said computer system (e.g., the identifier is unique for all transactions across all applications within one system, col., 7, line 51 – col., 8, line 36).

11. Claims 3, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leymann in view of "well known in the art" and Maccabee et. al. 6,108,700 (Hereafter Maccabee).

12. As per claims 3 and 8, Leymann teaches an agent to collect the processing time spent by said computer application for the transaction (e.g., an invocation agent for invoking an application instance. The invocation agent comprises instrumentation means interacting with an application response measurement system (ARM) to provide response measurement on behalf of the application instance by the ARM, col., 2, line 44 – col., 3, line 24).

However, Leymann does not specifically mention about processing time spent at each component of the computer system.

Maccabee teaches said agent measures the processing time spent by said computer application at each component of said computer system and measures the processing time spent by said computer application between each component of said computer system (e.g., The present invention has features which enable the derivation of information necessary for correlating and collating select measurement events into transactions that describe the behavior of end-to-end business transactions as it applies to availability, performance (response time), capacity, and utilization metrics. An example of the application to availability is that transactions can be formed even if not all the events are available. An example of the application to system capacity is that since the duration of a single event can be measured, the number of events per unit time can also be calculated. An example of the application to system utilization is that once the number of transactions per unit time are known, this can be compared to a maximum number of transactions per unit time, col., 3, line 21 – col., 4, line 51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Leymann with the teachings of Maccabee in order to facilitate calculation of processing time spent by each transaction at each component of the system because the software at the monitoring system would collect the transaction related information from an agent of each of the managed system. The collected transaction related information would be used to calculate the processing time spent by an application of each management system and the time spent between two managed systems that handled the transaction.

13. As per claim 9, Leymann teaches the following:

a computer system performance monitoring system (e.g., abstract, col., 2, line 44 – col., 3, line 24) comprising:

an application program interface (e.g., abstract, col., 2, line 44 – col., 3, line 24) for monitoring a computer application executed on a computer system, said application program interface comprising (e.g., FIG. 2 depicts this teaching of the invention. The managed system 111 corresponds to that of FIG. 1. In accordance with the present invention, an invocation agent 202 invokes an application instance 201. The invocation agent 202 comprises the instrumentation for application response measurement. Through this instrumentation the invocation agent 202 interacts with an application response measurement system 203, 204 comprising an ARM API 203 and API Subagent 204 to provide response measurement on behalf of the application instance 201 by the ARM, col., 8, lines 5 – 50), for assigning, without predefining events describing the potential- stages of a transaction to be executed by said computer application (e.g., abstract, col., 2, line 44 – col., 3, line 24), software code for assigning a single general reference to characteristic transactional information associated with a transaction to be executed by said computer application (e.g., The basic idea of the present invention is to instrument not the application components. The present invention contemplates instrumenting the invocation agent instead, which in turn is responsible to call the application for execution. It is the invocation agent that makes the appropriate ARM calls to furnish the instrumentation on behalf of the application, abstract),

an agent for marking the time at which said software code is executed and tagging that time with said characteristic transactional information as said characteristic transactional information is being currently processed by the computer application (e.g., ARM API 108 runs in the address space 110 of the application 109. Its only function is to capture the key data and a timestamp, put this data on a queue, and then return control to the application 109. API Subagent 107 runs asynchronously as its own process. This subagent manages the data (calculates response times, checks thresholds, col., 2, line 44 – col., 3, line 24),

a database for storing said raw computer application timing data, an aggregator (e.g., Tivoli Distributed Monitoring 101 provides this function at a local level or across a network or enterprise, offering sophisticated rule-based analysis of different applications, systems, databases, and networks, col., 2, line 44 – col., 3, line 24)

However, Leymann's invention does not teach adding software code to said computer application.

The limitations, "adding software code to said computer application", are well known in the art, for example, abstract, col., 7, line 51 – col., 8, line 15.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include adding software code to said computer application with the teachings of Leymann in order to facilitate addition of software code to the application because the code would help enhance the functionality of the application. The application with enhanced functionality would provide support for monitoring information.

Leymann also does not specifically mention about a database <u>for</u> storing latency data and an aggregator to calculate latency data.

Maccabee teaches an aggregator <u>for</u> calculating computer application latency data from raw timing data produced by said agent (e.g., Both aggregate and detail reporting facilities provide overall performance and availability information as well as exceptions and/or detail transactions including the decomposition of overall availability and performance metrics into smaller measurements representing the contribution made by select transaction components, abstract),

a database <u>for</u> storing said raw computer application timing data and said latency data (e.g., The Transaction Store is a repository for transactions and maintains them in their original state as well as storing aggregate records built from transactions, col., 3, line 21 – col., 4, line 51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Leymann with the teachings of Maccabee in order to facilitate calculation of processing time spent by each transaction at each component of the system because the software at the monitoring system would collect the transaction related information from an agent of each of the managed system and store the collected information into the database. The collected transaction related information would be used to calculate the processing time spent by an application of each management system and the time spent between two managed systems that handled the transaction.

14. Claims 4, 5, 10, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leymann and Maccabee in view of "Official Notice".

15. As per claims 4, 10 and 11, Maccabee the following:

a GUI to display to monitor latency data from the database (e.g., Upon a specific or periodic request a from GUI (565), a report or continuous graphical monitoring can be produced for the Information Consumer, col., 5, line 28 – col., 6, line 45).

However, Leymann and Maccabee do not specifically mention about the details of charting the latency of said computer system over a selected time frame. "Official Notice" is taken that both the concept and advantages of providing a chart with the latency data is well known and expected in the art. For example, Lee et. al., 6,223,276, Sager et. al., 6,487,675, Klein et al., 6,202,036, Schweitzer, et al., 2002/0016843, Brede et. al., 6,415,133 and Paley et al., 6,457,152 disclose the handling of latency information.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include plotting a chart of the latency data of the computer system with the teachings of Leymann and Maccabee in order to facilitate a user to monitor the latency data for the specific interval of time because a user will have the flexibility to monitor the latency of the transactions for the desired period of time for which the transaction related information has been captured by the system.

16. As per claims 5 and 12, Leymann the following:

calculation of latency of transaction information (e.g., The monitoring of the status of an application takes place during runtime. Primarily it is used for performance measurement of key application transactions. Exploitation of this technology results in advantages in terms of usability and comprehensibility when compared with the corresponding monitoring capabilities available today for networks, database systems etc. for example from reports describing network latency, response times, I/Os etc, col., 2, line 44 – col., 3, line 24).

Maccabee also teaches an aggregator to calculate latency of transaction information (e.g., The present invention has features which enable the derivation of information necessary for correlating and collating select measurement events into transactions that describe the behavior of end-to-end business transactions as it applies to availability, performance (response time), capacity, and utilization metrics. An example of the application to availability is that transactions can be formed even if not all the events are available. An example of the application to system capacity is that since the duration of a single event can be measured, the number of events per unit time can also be calculated. An example of the application to system utilization is that once the number of transactions per unit time are known, this can be compared to a maximum number of transactions per unit time, col., 3, line 21 – col., 4, line 51).

However, Leymann and Maccabee do not specifically mention about the details of what formula is used to calculate the latency of transaction information passed between components of said computer system. “Official Notice” is taken that both the concept and advantages of providing a formula, “T'1 (Ucy) - T'1 (Vcx)) + (T'2(Ucy) - T'2 (Vcx)) + ... + (T' m-1 (Ucy) - T'm-1 (Vcx)) + (T' m (Ucy) - T' m (Vcx)) / m where: m = an unspecified number of transaction events, T1, T21 ... I Tm- I r Tm; T'1, T'2, ..., T'm-1 T'm = transactional information pertaining to transaction events, TI, T2, ... r Tm-1, T ; Ucy = start time for a transaction event at one component of said computer system; and Vcx = end time for a transaction event at another component of said computer system”, to calculate the latency of transaction information is well known and expected in the art. For example, Lee et. al., 6,223,276, Sager et. al., 6,487,675, Klein et al., 6,202,036, Schweitzer, et al., 2002/0016843, Brede et. al., 6,415,133 and Paley et al., 6,457,152 disclose the concept of calculating latency between components.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a formula to calculate the latency of transaction information with the teachings of Leymann and Maccabee in order to facilitate a user to monitor the latency data for the specific interval of time because the software of the monitor system would use the latency calculating formula and provide flexibility to the user to monitor the latency of the transactions for the desired period of time for which the transaction related information has been captured by the system.

Conclusion

17. In order to expedite the prosecution, the applicant is directed to include applicant’s invention, in claims 1, 6 and 9, i.e., a collector, a formula to measure latency, a network having

multiple computers (figure 8), and/or to measure latency of transaction flowing through network computer systems regardless of network topology.

18. The prior art made of record (forms PTO-892 and applicant provided IDS cited arts) and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Haresh Patel whose telephone number is (571) 272-3973. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday from 10:00 am to 8:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Haresh Patel

August 10, 2005

ARRY D. DONAGHUE
RIMARY EXAM